

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL D. ZOECKLER

Appeal 2007-0809
Application 09/559,704
Technology Center 3700

Decided: May 30, 2007¹

Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and
LINDA E. HORNER, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Michael D. Zoeckler (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-7, 9-16, and 25-34, the only

¹ Appellant's counsel presented oral argument in this appeal on May 15, 2007.

pending claims. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

Appellant's claimed invention is directed to a method of making paperboard carton blanks and paperboard cartons with selectively reinforced panels. Claim 1 is illustrative of the claimed invention and reads as follows:

1. A method of making paperboard cartons with selectively reinforced panels, said method comprising the steps of:

(a) advancing a web of noncorrugated paperboard along a path, the web of noncorrugated paperboard having a width and longitudinally extending panel portions that will become panels separated by fold lines in completed paperboard cartons;

(b) progressively applying and adhering at least one ribbon of reinforcing material to the advancing web of noncorrugated paperboard, the ribbon having a width less than the width of the web of noncorrugated paperboard and being positioned to overlies and adhere to substantially all of a selected panel portion of the web;

(c) cutting the web of noncorrugated paperboard to form carton blanks having panels;
and

(d) forming the carton blanks into cartons for receiving articles, the ribbon of reinforcing material reinforcing at least one panel of the cartons.

The Examiner relies upon the following as evidence of unpatentability:

Campbell	US 1,600,396	Sep. 21, 1926
Stokes	US 1,880,288	Oct. 04, 1932
Lang	US 5,147,480	Sep. 15, 1992

Stone

US 5,551,938

Sep. 03, 1996

Appellant seeks review of the Examiner's rejections of claims 1-3, 11-16, 25-29, and 34 under 35 U.S.C. § 102(b) as anticipated by Stone, claims 4-7 and 30-33 under 35 U.S.C. § 103(a) as unpatentable over Stone in view of Stokes, and claims 1, 3-5, 7, 9-11, 16, 25, 29-32, and 34 under 35 U.S.C. § 103(a) as unpatentable over Lang in view of Campbell.

The Examiner provides reasoning in support of the rejections in the Answer (mailed October 6, 2006). Appellant presents opposing arguments in the Appeal Brief (filed August 3, 2006) and Reply Brief (filed November 6, 2006). A Declaration under 37 C.F.R. § 1.132 by Steve McLary, filed March 15, 2004, is appended to the Appeal Brief as evidence in support of Appellant's arguments against the rejection of claims 1, 3-5, 7, 9-11, 16, 25, 29-32, and 34 under 35 U.S.C. § 103(a) as unpatentable over Lang in view of Campbell (Appeal Br. 19-20).

OPINION

The first issue for our consideration is whether the subject matter of claims 1-3, 11-16, 25-29, and 34 is anticipated by Stone and, more particularly, whether Stone's collar material 38, on which the Examiner reads the "ribbon of reinforcing material" of independent claims 1 and 25, is "positioned to overlies and adhere to substantially all of a selected panel portion of the web," as called for in claim 1, and "positioned on, and adhered to, substantially all of a longitudinally extending panel portion of the web of noncorrugated paperboard," as called for in claim 25 (*see* Appeal Br. 12).

We begin our analysis by first interpreting the claim language at issue. In particular, we focus our attention on the meaning of "panel portion" and

“substantially all,” as this language is critical to the limitation Appellant contends is not met by Stone.

We determine the scope of the claims in patent applications “not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction ‘in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) (en banc) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004)). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868-69 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”) The challenge is to interpret claims in view of the specification without unnecessarily importing limitations from the specification into the claims. *See E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003).

We begin with the “panel portion.” Read within the context of the recitation “panel portions that will become panels separated by fold lines in completed paperboard cartons [carton blanks],” it is apparent that a “panel portion of the web” is not simply a portion of a panel but, rather, is a portion of the web that will become a panel separated by fold lines in completed

paperboard cartons or carton blanks. In other words, a “panel portion of the web” is a portion of the web that corresponds to a panel in the completed carton.

We next interpret the claim language “substantially all of a selected [longitudinally extending] panel portion of the web.” The term “substantially” is a term of degree. When a term of degree is used, such as the term “substantially” in claims 1 and 25, we must determine whether the specification provides some standard for measuring that degree. *See Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826, 221 USPQ 568, 573-74 (Fed. Cir. 1984). This feature of Appellant’s invention is discussed on pages 24-26 of Appellant’s Specification. In particular, Appellant’s carton, “when formed, has ends defined by the end tabs 61 that are reinforced by the paperboard reinforcing ribbons 62 laminated thereto to [provide] enhanced strength, rigidity, and tear or blow-out resistance in the ends of the carton” (Specification 24:21 to 25:1). The Specification goes on to explain that, as illustrated in Figs. 4 and 5, the reinforcing ribbon 62 is preferably placed with respect to adjacent fold lines 53 to ensure that the added thickness of the ribbons does not interfere with the folding of the carton blank along the fold lines during conversion into a carton (Specification 25:7-11). The inboard edge 65 of the reinforcing ribbon 62 is “spaced a predetermined short distance from the fold line 53” to ensure that “the edge of the ribbon does not impact any of the panels of the blank or otherwise interfere with the folding process” (Specification 25:16-23). By way of example, according to Appellant, a predetermined short distance between a fold line and the inboard edge of a reinforcing ribbon of about .030 inches, the industry standard paperboard thickness, is easily achieved

and maintained and allows unimpeded folding of a carton blank while having little or no effect on the structural reinforcement provided by the reinforcing ribbon, although other appropriate distances may be chosen according to application specific requirements (Specification 26:1-11).

Consistent with the description in Appellant's Specification of the reinforced tabs 61 discussed above, we interpret the claim language "substantially all" to be directed to Appellant's preferred embodiment, illustrated in Figs. 3-5, wherein the reinforcing ribbon overlies and is adhered to the entirety of a panel portion, except for a predetermined short distance between its inboard edge and an adjacent folding line, the predetermined short distance selected to allow unimpeded folding of the carton blank while maximizing structural reinforcement.

The Examiner offers four theories to explain how Stone meets the limitation of claims 1 and 25 at issue. None of these theories is well founded.

In accordance with the first theory, the Examiner contends that Stone reinforces substantially all of panel portion 56 by adhering strip 38 (Answer 5). This theory is flawed in two respects. First, and most importantly, the panel 56, like panels 52, 54, 58, and 60, referred to by Stone, is a panel portion of the collar blank 46 that forms the collar 24 that is adhered to the carton blank 44 (Stone, col. 5, ll. 45-49). Panel 56 is *not* a panel portion of the carton blank 44 or the web of carton material 42 from which the carton blank 44 is die cut and scored (Stone, col. 4, ll. 66-67). Further, to permit the lid 30 to be raised upwardly from the base of the carton while the collar 24 is retained on the base section, the collar 24 is adhered to the carton 10, and hence to carton blank 44, only at locations

below the tear strip 27 of the collar 24 (Stone, col. 3, l. 66 to col. 4, l. 2) and not to the entirety of the portion of the carton blank 44 that the collar 24 overlies. Thus, even if the portion of carton blank 44 that the panel 56 of collar blank 46 overlies were considered to meet the “selected [longitudinally extending] panel portion of the web” of claims 1 and 25, panel 56 is not positioned to overlie and adhere to substantially all of such portion.

The Examiner’s second theory is grounded on an “extremely broad” interpretation of “substantially all of a selected panel portion of the web” as “any *portion* of any panel that is adhered to and covered by another (reinforcing) layer” (Answer 5). For the reasons discussed above, this is *not* a reasonable interpretation, either within the context of the claim itself or in light of Appellant’s Specification. Specifically, the recitation “panel portions that will become panels separated by fold lines in completed paperboard cartons [carton blanks]” in claims 1 and 25 clearly dictates that a “panel portion of the web” is not simply any portion of any panel but, rather, is a portion of the web that will become a panel separated by fold lines in completed paperboard cartons or carton blanks. Moreover, claims 1 and 25 also require positioning of the reinforcing ribbon to overlie and adhere to substantially all of a selected panel portion of the web. As discussed above, the collar blank 46 (collar 24) is adhered to the carton blank 44 only at locations below the tear strip 27 of the collar 24 (Stone, col. 3, l. 66 to col. 4, l. 2) and not to the entirety of the portion of the carton blank 44 that the collar overlies.

The Examiner’s third theory relies on Stone’s disclosure that “the width of the collar 24 may be modified so that the collar is relatively narrow

compared to the illustrated collar 24 or is relatively wide compared to the illustrated collar 24” (Stone, col. 6, ll. 42-45). According to the Examiner, “[w]idening of the strip 38 would anticipate [Appellant’s] narrow interpretation of this limitation ie. the smallest ‘selected panel portion’ 50 would be substantially covered and adhered to by reinforcing material 38; see figure 3” (Answer 6). This theory is flawed in two respects. First, while the disclosure alluded to by the Examiner teaches modification of the width so as to be “relatively wide compared to the illustrated collar 24,” it does not specify that the collar be so wide as to overlie substantially all of panel 50 and thus is not sufficient to anticipate the subject matter of claims 1 and 25. Moreover, one skilled in the art would view that disclosure within the context of Stone’s teaching that collar 24 “preferably extends from an upper edge of the top wall 12 of the carton 10 to a location spaced a substantial distance from the bottom wall 14 of the carton 10” (Stone, col. 3, ll. 38-41) and, in so doing, would not infer an instruction to modify collar 24 to overlie substantially all of a selected panel portion of the web. Second, as pointed out above, Stone specifically teaches that the collar 24 is adhered to the carton 10 only at locations below the tear strip 27 of the collar 24 (Stone, col. 3, l. 66 to col. 4, l. 2). Accordingly, even if the collar 24 were modified to overlie all or substantially all of the panel 50, it would not also be positioned to be adhered to substantially all of panel 50.

The Examiner’s fourth theory alludes to Stone’s recognition of the capability of using a “full height liner” (Answer 6). Specifically, Stone teaches that, by virtue of its location spaced a substantial distance from the bottom wall 14 of the carton 10, “the collar 24 effects a substantial material savings relative to a full-height liner extending from the top wall 12 to the

bottom wall 14, thereby minimizing the cost associated with materials used for manufacturing the recloseable container” (Stone, col. 3, ll. 38-48). Even considering this to be a teaching of a non-preferred embodiment wherein the collar 24 extends the full height of the carton 10 from the top wall to the bottom wall 14, thereby overlying all, and thus substantially all, of a selected panel portion, for example, panel 16, Stone expressly teaches adhering the collar to the carton 10 only at locations below the tear strip 27 of the collar 24. Thus, such a “full-height liner” would still not satisfy the claim limitation at issue.

In light of the above, we conclude that the Examiner erred in rejecting claims 1 and 25, as well as dependent claims 2, 3, 11-16, 26-29, and 34, as anticipated by Stone. The rejection is reversed.

The Examiner’s application of Stokes, relied upon simply for its teaching of reinforcing carton blanks with ribbons (Answer 5), does not make up for the deficiency of Stone discussed above. The rejection of claims 4-7 and 30-33, which depend from claims 1 and 25, therefore must also be reversed.

The second issue for our consideration is whether the subject matter of claims 1, 3-5, 7, 9-11, 16, 25, 29-32, and 34 is unpatentable over the combined teachings of Lang and Campbell. Claims 1 and 25 are directed to methods of making noncorrugated paperboard cartons and carton blanks and positively recite a step of advancing a web of *noncorrugated* paperboard. Lang, as acknowledged by the Examiner (Answer 4), is directed specifically to laminating single face liner 14, double face liner 38, and finish layer 64 to corrugated medium 20 and does not address laminating noncorrugated paperboard material. Consequently, to arrive at the subject matter of claims

1 and 25, the Examiner's rejection relies on the teachings of Campbell for a suggestion or reason to use the lamination method of Lang on noncorrugated paperboard (Answer 4). Therefore, the second issue in this appeal focuses on the question of whether the combined teachings of Lang and Campbell establish that it would have been obvious to use the lamination method of Lang on noncorrugated paperboard material, as required in independent claims 1 and 25.

In order to answer this question, we begin by examining what Lang teaches laminating to the corrugated material and the reasons for doing so. As best seen in Fig. 1, in Lang's process, medium 20 is corrugated or fluted in the single facer unit 16 by the action of two corrugator rolls 22 to form corrugated medium. A single face liner 14 is adhered to one face of corrugated medium 20 using adhesive applied by applicator 24 and pressure applied by pressure roll 28 to form single face material 30. A double face liner 38 is then adhered to the opposite face of single face material 30 in double backer glue machine 34 and hot and cold traction section 42 to form double face material 48, sometimes called "corrugated material." (Lang, col. 13, ll. 28-37, 54-59, and 64-68.) Single face liner 14 and double face liner 38 may be kraft paper, bleached paper, preprint, or any other type of board or paper typically used in the corrugating process (Lang, col. 13, ll. 60-63). The single face liner 14 and double face liner 38, and the process for adhering or laminating them to corrugated medium, have specific applicability to corrugated material and would be recognized as such by one of ordinary skill in the art. They provide relatively smooth and flat surfaces to otherwise fluted material, a function not similarly applicable to noncorrugated paperboard material. Lang also teaches laminating a finish

layer 64, typically preprinted with graphics (Lang, col. 15, ll. 10-15), onto the corrugated material 48 in a laminator 62. The laminator 62 includes an adhesive applicator 70 for applying adhesive to the finish layer and a laminator roll 80 and pressure roll 82 that apply the finish layer 64 to the corrugated material. (Lang, col. 14, ll. 23-65.) Application of a finish layer 64 at the dry end of the line (i.e., portions downstream of the hot and cold traction section (Lang, col. 1, ll. 45-47)) permits papers and composites accommodating high quality graphics to be used, enhances alignment and registration of the graphics with the slitter/scorer and chop knife, which are only a few feet away from the laminator, and eliminates scuffing and degradation that occurs in conventional wet end (i.e., portions upstream of the hot and cold traction section (Lang, col. 1, ll. 36-39) application processes as the composite is dragged through the line (Lang, col. 15, ll. 27-33). Lamination of the finish layer 64, like the single face liner 14 and double face liner 38, has particular application to corrugated material, to which print cannot be readily applied without degradation, because of the ridged and irregular corrugated surface to which the print must be applied (Lang, col. 5, l. 66 to col. 6, l. 8). This problem is not presented with noncorrugated paperboard.

Campbell teaches methods of reinforcing fiber board and corrugated board (Campbell 1:1-2). Campbell effects such reinforcement by inserting lines of fabric or other tape, or the like, between the plies of the board from which the blank is to be cut and scored, the lines of reinforcing material coinciding with the subsequent fold lines of the completed carton (Campbell 1:45-51). By providing reinforcement of the carton blank, and hence the erected carton, at the top and bottom edges of the carton, which are the weak

points of any carton or shipping case (Campbell 2:69-73), Campbell avoids the necessity of providing much heavier board and takes care of the weak points of any carton or wrapper in a very effective way, at small expense (Campbell 2:107-114). Campbell thus teaches away² from adhering reinforcing material to substantially all of a carton blank or any panel portion thereof.

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

KSR Int'l. Co. v. Teleflex Inc., 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007). We must also bear in mind, however, that a claim to a combination of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. Although common sense directs us to look with care at claims directed to the combination of known devices according to their established functions, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the

² “A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994)

way the claimed new invention does.” *Id.*, 127 S.Ct. at 1741, 82 USPQ2d at 1396.

As discussed above, because of the differences between corrugated material, which presents ridged and irregular surfaces, and noncorrugated material, which does not present such surfaces and thus can more readily accept printing directly thereon, one of ordinary skill in the art of paperboard cartons or blanks would not have recognized that the lamination of single or double face liners or a finish layer as taught by Lang would likewise improve carton blanks of noncorrugated material and thus would not have been prompted to utilize Lang’s lamination process on noncorrugated paperboard carton material. While the additional adhesive and finish layer of Lang’s lamination process may add considerable strength to the finished corrugated carton blank or carton (Lang, col. 10, ll. 9-14) and thus incidentally act as a reinforcing member, one of ordinary skill in the art of paperboard cartons and carton blanks would not have been prompted to utilize such a technique to reinforce noncorrugated paperboard material, especially in the face of Campbell’s teaching away from such an approach in favor of the cost-saving approach of providing reinforcement material only at the weak points of the carton, the top and bottom edges thereof.

In light of the above, we conclude that the combined teachings of Lang and Campbell fall short of establishing a *prima facie* case that it would have been obvious to use the lamination method of Lang on noncorrugated paperboard material, as required in independent claims 1 and 25. Accordingly, we need not address the Declaration under 37 C.F.R. § 1.132 by Steve McLary appended to the Appeal Brief. The rejection of

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independent claims 1 and 25, as well as dependent claims 3-5, 7, 9-11, 16, 29-32, and 34, as unpatentable over Lang in view of Campbell is reversed.

ORDER

The decision of the Examiner is reversed.

REVERSED

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